

Amendments To The Specification:

In the English translation document, please delete the term --Description-- at page 1 line 1, before the title.

In the English translation document, please add the paragraph at page 1 line 5, after the title, as follows:

**--CROSS REFERENCE TO RELATED APPLICATIONS**

This application is the US National Stage of International Application No. PCT/DE2003/002272, filed July 7, 2003 and claims the benefit thereof. The International Application claims the benefits of German application No. 10236603.9 filed August 9, 2002, both applications are incorporated by reference herein in their entirety.--

In the English translation document, please add the paragraph at page 1 line 5, after the newly added CROSS REFERENCE TO RELATED APPLICATIONS section, as follows:

**--FIELD OF THE INVENTION**

The invention relates to a method for transmitting at least one first and second data signal in polarization multiplex in an optical transmission system.--

In the English translation document, please add the section heading at page 1 line 5, after the newly added paragraph, as follows:

**--BACKGROUND OF THE INVENTION--**

In the English translation document, please add the paragraphs at page 2 line 20, as follows:

In F. Heismann et al., "Automatic polarization demultiplexer for polarization-multiplexed transmission systems", Electronics Lett. (1993) Vol. 29, No. 22, pp 1965/6, a fully automatic polarization demultiplexer for an optical polarization-multiplexed transmission system is proposed. The demultiplexer consists of an electro-optical polarization converter and a simple fiber-optic polarization splitter. The polarization converter continuously converts any arbitrary and fluctuating polarization states at the end of the optical transmission link into a fixed polarization state, and they are then separated out spatially by the polarization splitter.

S. Bigo et al., "10.2 Tbit/s (256x42.7 Gbit/s PDM/WDM) transmission over 100 km TeraLight™ fiber with 1.28 bit/s/Hz spectral efficiency", OFC 2001 Tech. Digest, Postconference Edition, pp. PD25-1 – 3, presents a transmission system with high spectral efficiency, incorporating both polarization multiplexing and also wavelength multiplexing. In this, the transmission capacity is increased by the fact that channels which are located in the C and L bands are mutually combined and are so arranged that they can be better isolated spectrally by means of vestigial sideband filtering in the receiver. Here, one of the two sidebands of the transmission signal is filtered out at the receiving end of the transmission system.

In the English translation document, please amend the paragraph at page 2 lines 21-30, as follows:

In addition to this, the publication by Mike Sieben et al., "Optical Single Sideband Transmission at 10 Gb/s Using Only Electrical Dispersion Compensation", Journal of Lightwave Technology, Vol. 17, No. 10, October 1999 discloses a method for single-sideband transmission of optical signals, in which an optical single-sideband signal is generated at the transmitting end from a digital baseband signal with the help of at least one Mach-Zehnder modulator, using a Hilbert transformation. By the transmission of a single sideband, the ~~non-linear~~ effect of fiber chromatic dispersion is reduced, and the optical bandwidth is increased.

In the English translation document, please add the section heading at page 2 line 31, after the newly added paragraph, as follows:

--SUMMARY OF THE INVENTION--

In the English translation document, please amend the paragraph at page 3 written lines 1-2, as follows:

This object is achieved by the claims. ~~The starting point for achieving this object is a method according to Claim 1.~~

In the English translation document, please amend the paragraph at page 5 lines 19-20, as follows:

Additional advantageous embodiments of the method in accordance with the invention will be found in the ~~further~~ dependent Claims.

In the English translation document, please add the section heading at page 5 line 26, as follows:

--BRIEF DESCRIPTION OF THE DRAWINGS--

In the English translation document, please add the section heading at page 6 line 2, as follows:

--DETAILED DESCRIPTION OF THE INVENTION--

In the English translation document, please amend the paragraph at page 15 lines 21-23, as follows:

For the purpose of further raising the bandwidth efficiency of the optical transmission system OTS, wavelength multiplexing technologies can be used.